CLAIMS:

1. Method of embedding additional data (w) in a media signal (x) comprising the steps of:

obtaining a media signal (x), (step 48),

mixing at least one section of said media signal (x) with a noise signal (n; n_s; δn) for providing a modified media signal ($x + n$; $x + n_s$; $x + \delta n$), (step 54), and

combining said additional data (w) with said modified media signal, (step 56) for providing a first host modifying media signal (m_w).

2. Method according to claim 1, wherein the step of combining is performed by multiplying said modified media signal with said additional data (w).

3. Method according to claim 2, wherein the step of multiplying is performed in the time domain.

4. Method according to claim 2, wherein the step of multiplying is performed in the frequency domain.

5. Method according to claim 1, further comprising the step of shaping said noise signal using a first signal shaping function (M1) based on a model of human perception , (step 52), for providing a shaped noise signal to be used for providing the modified media signal ($x + n_s$).

6. Method according to claim 1, further including the step of shaping said first host modifying media signal (m_w) with a second signal shaping function (M2) based on a model of human perception, (step 58), for providing a second host modifying media signal (m_{ws}).

7. Method according to claim 1, further including the step of adding a host modifying media signal (m_w; m_{ws}) to said modified media signal (step 60).

8. Method according to claim 1, further including the step of adding a host modifying media signal (m_w; m_{ws}) to said media signal.

9. Method according to claim 1, further comprising the step of scaling said noise signal using a scaling factor δ prior to the step of mixing for providing a scaled noise signal to be used for providing the modified media signal ($x + \delta n$).

10. Method according to claim 9, further including the step of adding an unscaled noise signal to said first host modifying media signal.

11. Method according to claim 1, wherein said additional data is a watermark (w).

12. Method according to claim 1, further comprising the step of analysing (A) the media signal and providing, for different sections of the media signal, a section of said modified media signal ($x + n$) or a section of said media signal (x) in dependence of the analysis for combining with said additional data.

13. Method according to claim 12, further comprising the step of switching between said media signal and a modified media signal for combining with said additional data, wherein the step of switching preferably is a graceful switching.

14. Method of embedding additional data (w) in a media signal (x) comprising the steps of:

obtaining a media signal (x),

analysing (A) the media signal,

mixing at least one section of said media signal (x) with a noise signal (n) for providing a modified media signal ($x + n$), and

combining, for different sections of the media signal, said additional data (w) with said modified media signal ($x + n$) or with said original media signal (x) in dependence of the analysis.

15. Device (10) for embedding additional data (w) in a media signal (x) comprising:

a first adding unit (12) for mixing at least one section of said media signal (x) with a noise signal (n; n_s; δn) in order to provide a modified media signal (x + n; x + n_s; x + δn), and

a combiner unit (14) for combining said additional data (w) with said modified media signal for providing a first host modifying media signal (m_w).

16. Device according to claim 15, wherein the combiner unit is arranged to combine said additional data with said modified media signal through multiplying said modified media signal with said additional data.

17. Device according to claim 15, further comprising a first signal shaping unit (40) arranged to shape said noise signal using a first signal shaping function (M1) based on a model (P) of human perception, for providing a shaped noise signal to be used for providing the modified media signal.

18. Device according to claim 15, further comprising a second signal shaping unit (44) arranged to shape said first host modifying media signal with a second signal shaping function (M2) based on a model (P) of human perception, for providing a second host modifying media signal.

19. Device according to claim 15, further comprising a second adding unit (36) arranged to add a host modifying media signal to said modified media signal.

20. Device according to claim 15, further comprising a second adding unit (36) arranged to add a host modifying media signal to said media signal (x).

21. Device according to claim 15, further comprising a scaling unit (62) arranged to scale down said noise signal (δn) prior to mixing with said media signal (x) for providing a scaled noise signal to be used for providing the modified media signal.

22. Device according to claim 21, further comprising a third adding unit (64) arranged to add an unscaled noise signal to said first host modifying media signal.

23. Device according to claim 15, further comprising an analysing unit (66) arranged to analyse said media signal (x) and control, for different sections of the media signal, the provision of a section of a modified media signal or a section of said media signal to the combiner unit (14) for combining with said additional data in dependence of the analysis (A).

24. Device according to claim 23, further comprising at least one first switch (68) arranged to connect said media signal or said modified media signal to the combiner unit under the control of the analysing unit.

25. Device according to claim 24, wherein there is a second switch (70) controlled by the analysing unit, wherein the first switch connects said modified media signal to the combiner unit, the second switch connects said media signal to the combiner unit and the switches are arranged to switch gracefully from one state to the other.

26. Device (10) for embedding additional data (w) in a media signal (x) comprising:

a first adding unit (12) for mixing at least one section of said media signal (x) with a noise signal (n; n_s; δn) in order to provide a modified media signal ($x + n$; $x + n_s$; $x + \delta n$),

a combiner unit (14) for combining said additional data (w) with said modified media signal ($x + n$) or with said media signal (x) for providing a first host modifying signal, and

an analysing unit (66) arranged to analyse said media signal (x) and control, for different sections of the media signal, the provision of said modified media signal or said media signal to the combiner unit (14) in dependence of the analysis (A).

27 Media signal (y) comprising:

at least one section of modified media signal comprising media signal (x) mixed with a noise signal (n; n_s; δn), where additional data (w) has been combined with this modified media signal ($x + n$; $x + n_s$; $x + \delta n$).

28. Information storage medium (72) comprising:

a media signal (y) including at least one section with modified media signal comprising:

media signal (x) mixed with a noise signal (n; n_s; δn),

where additional data (w) has been combined with this modified media signal ($x + n$; $x + n_s$; $x + \delta n$).